

We Claim:

- 1 1. N-methylpyrrolidone solvate of cefprozil.
- 1 2. The solvate of claim 1 characterized by a crystalline structure containing cefprozil
2 and N-methyl pyrrolidone in a molar ratio of 1: 1.5.
- 1 3. The solvate of claim 1 characterized by X-ray diffraction pattern having peaks at
2 about 6.24, 6.48 and 18.64 degrees two-theta.
- 1 4. N,N-dimethylacetamide solvate of cefprozil.
- 1 5. The solvate of claim 4 characterized by a crystalline structure containing cefprozil
2 and N,N-dimethylacetamide in a molar ratio of 2: 1.5.
- 1 6. The solvate of claim 4 characterized by X-ray diffraction pattern having peaks at
2 about 6.48, 7.08, 8.46 and 18.78 degrees two-theta.
- 1 7. The solvate of claim 6 further characterized by peaks at about 18.32, 20.06, 21.64,
2 22.16 and 24.7 degrees two-theta.
- 1 8. A process for the preparation of N-methylpyrrolidone solvate of cefprozil, the
2 process comprising:
3 obtaining a solution of cefprozil in one or more solvents;
4 adding N-methylpyrrolidone to the solution of cefprozil at a pH of about 4.5 to
5 about 6.5;
6 and isolating the N-methylpyrrolidone solvate of cefprozil.
- 1 9. A process for the preparation of N,N-dimethylacetamide solvate of cefprozil, the
2 process comprising:
3 obtaining a solution of cefprozil in one or more solvents;
4 adding N,N-dimethylacetamide to the solution of cefprozil at a pH of about 4.5 to
5 about 6.5;
6 and isolating the N,N-dimethylacetamide solvate of cefprozil.
- 1 10. The process of claim 8 or 9, wherein the solution is obtained by adding a base to a
2 suspension of cefprozil in the solvent.

- 1 11. The process of claim 10, wherein the base comprises one or more of alkali metal
2 salts of carboxylic acids, organic amines, ammonium hydroxide, alkali metal
3 hydroxides, alkali metal carbonates, or alkali metal bicarbonates.
- 1 12. The process of claim 11, wherein the organic amine comprises one or more of
2 triethylamine, pyridine, picoline, ethanolamine, triethanolamine, and
3 dicyclohexylamine.
- 1 13. The process of claim 11, wherein the alkali metal salt of carboxylic acid comprises
2 one or more of sodium and potassium acetate.
- 1 14. The process of claim 11, wherein the alkali metal hydroxide comprises one or
2 more of sodium and potassium hydroxide.
- 1 15. The process of claim 11, wherein the alkali metal carbonate one or more of sodium
2 and potassium carbonate.
- 1 16. The process of claim 8 or 9, wherein the solution is obtained directly from a
2 reaction in which cefprozil is formed.
- 1 17. The process of claim 8 or 9, wherein the solvent comprises one or more of
2 acetonitrile, ketone, alcohol, cyclic ether, water, or mixtures thereof.
- 1 18. The process of claim 17, wherein the ketone comprises one or more of acetone and
2 ethylmethyl ketone.
- 1 19. The process of claim 17, wherein the alcohol comprises one or more of methanol,
2 ethanol, denatured spirit, propanol, and isopropanol.
- 1 20. The process of claim 17, wherein the cyclic ether comprises one or more of
2 dioxane and tetrahydrofuran.
- 1 21. The process of claim 8 or 9, wherein isolating the solvate comprises one or more of
2 filtration, filtration under vacuum, decantation, and centrifugation.
- 1 22. The process of claim 8 or 9, further comprising additional drying of the product
2 obtained.

- 1 23. A process for the preparation of crystalline cefprozil, the process comprising:
2 stirring the N-methylpyrrolidone or N,N-dimethylacetamide solvate of cefprozil in
3 a solvent at a temperature of from about 20°C to about 60°C;
4 and isolating the crystalline cefprozil.
- 1 24. The process of claim 23, wherein the temperature is in the range of about 35 °C to
2 about 50 °C.
- 1 25. The process of claim 23, wherein the solvent comprises one or more of acetonitrile,
2 ketone, alcohol, cyclic ether, water, or mixtures thereof.
- 1 26. The process of claim 25, wherein the ketone comprises one or more of acetone and
2 ethylmethyl ketone.
- 1 27. The process of claim 25, wherein the alcohol comprises one or more of methanol,
2 ethanol, denatured spirit, propanol, and isopropanol.
- 1 28. The process of claim 25, wherein the cyclic ether comprises one or more of
2 dioxane and tetrahydrofuran.
- 1 29. The process of claim 23, wherein isolating the crystalline cefprozil comprises one
2 or more of filtration, filtration under vacuum, decantation, and centrifugation.
- 1 30. The process of claim 23, wherein the crystalline cefprozil may be obtained as a
2 monohydrate or a hemihydrate of cefprozil.
- 1 31. The process of claim 23, further comprising additional drying of the product
2 obtained.
- 1 32. The process of claim 23, further comprising forming the product obtained into a
2 finished dosage form.